For the sake of ventilation—it need not be said for appearance—as well as sound, all roofs should be of a high pitch and open. Boarding is better than plastering under the tiles or slates; but great care must be used, if boarding cannot be afforded, in not plastering to the tile-lathes or battens. For the covering of roofs, much must depend on the locality. If tiles can be had, they make the most picturesque appearance. It often happens that old tiles are difficult to procure, and new tiles are so bright as to be unpleasing; but by using a solution of manganese, into which the tiles should be dipped before placing in the kiln, this is quite obviated. Great care is necessary in securing the ridge and hip tiles; and the valley tiles require much care in laying. The joiners' work should be of the plainest description, but framed with great care: the windows should have window boards, and lined round, when these cannot be used; and where angles occur, these should be protected by wood beads, rather than plastered."

The book will be found very useful by all interested in school building.

A Dictionary of Science, Literature, and Art. Edited by W. T. BRANDE, F.R.S. L. & E. assisted by Dr. JOSEPH CAUVIN, M.A. and others. With illustrations. London: Longman, Brown, Green, and Co. 1852.

If any who read the advice we lately gave against ignorance in matters pertaining to "natural philosophy, chemistry, and such things," should seek to be excused on the plea that they know no publication treating, *generally, and in a compendious and accessible* form, of *every* branch of human knowledge, we would point their attention to this Dictionary, of which a second edition has recently been issued by Messrs. Longman, Brown, and Green. The whole of the original work has been carefully revised, and such additions made as were rendered necessary by the progress of science, in the shape of a supplement containing all the scientific terms, processes, and improvements which have come into use since the appearance of the first edition.

The advantages of Encyclopædias are now so universally acknowledged, that it would be superfluous to endeavour to recommend the present work by dwelling on their peculiar merits; but by far the greater number of them are too voluminous and too costly for more than a limited use, embracing, as they do, an infinite variety of *treatises* (*rather than brief and comprehensive articles*), each making a considerable work. They are valuable substitutes for libraries, as repositories of the various knowledge connected with the different departments of which they treat, but they are too ponderous for ready consultation; while the extensive plan on which they are compiled necessarily renders them far too expensive for general circulation. The present work was prepared to avoid these objections, and supply a want. It has been most ably effected by Mr. Brande and those associated with him in the arduous undertaking. When we mention amongst his coadjutors Mr. Lindley, the late Mr. Loudon, the Messrs. Merivale, Mr. Galloway, Mr. M'Culloch, Dr. Cauvin, Mr. Joseph Gwilt, and Professor Owen, it will be seen that the right means have been resorted to to insure accuracy and excellence in the work.

"It must not be supposed," says the editor, "because the articles are for the most part brief and compendious, they are either flimsy or superficial. On the contrary, they have been compiled throughout with the greatest care. Popularity has not been sought for at the expense of science, nor brevity by the sacrifice of useful facts or appropriate illustration. The work contains not a few new and original views: no statement has been made as to any unusual or doubtful matter without referring to the authority whence it has been derived; and when subjects of general interest and importance are noticed, the reader is referred to the works relating to them, in which they are handled with the greatest ability."

It can hardly fail to be useful to individuals of all ranks and conditions,—to the man of business and the man of pleasure, the student and the superficial reader, the busy and the idle. Every one who takes any share in conversation, or who dips how cursorily soever into any newspaper or other publication, will every now and then find the advantage of having access to this *Dictionary of Science, Literature, and Art.*

Miscellanea.

Discussion of Art by German Artists.—The Dusseldorf artists form a very connected band, and amongst them the principle of *mutual cultivation* has taken firm root. A German paper on the subject, reprinted in the American *Literary World*, says that for a period of eight years and more, on every Sunday evening during the winter, the elder artists, including the director, Schadow, have assembled in an apartment of some public house in the city. The principal object of these meetings is artistic. They are, however, likewise devoted to literature and to the mutual enjoyment of it. Generally every fortnight or three weeks those painters who form the association are obliged each to bring a drawing, which is examined, criticised, and judged by the whole company. The artist finds himself here, far more than when he exhibits his sketch to a particular individual, immediately in the presence of a public, and, truly, one possessed of the requisite knowledge in matters of art. A general opinion is formed, which, as it gives to one a still higher degree of pleasure and enthusiasm in the prosecution of a successful composition, deters another from wasting time and pains upon a failure. On these evenings, a spirit of extreme animation and excitement generally prevails, and so much the more when the designs presented are particularly meritorious, and promise a successful progress and result. Then, too, the critical disquisitions regarding a drawing of doubtful merit, the projects suggested for the remedy of its defects, and the new discussions which arise from the consideration of these projects, occasion, at times, a spirit and interest of which the lover of art who derives his knowledge of the drawings and sketches of recent or elder painters merely from the portfolio of the collector can have no idea.

Assessment of Small Tenements.—A letter has been received from the Poor Law Board in reference to an important but much-misunderstood point in the mode of assessing cottage property, under the Act passed in the session of 1850. The board having been applied to for their opinion as to the extent to which the small tenements of a considerable owner of property should be assessed, the party referred to having given notice of his intention to compound in respect of such property, the board, in reply, state "that the owner who gives notice to compound cannot insist upon being assessed at one-half of the amount at which the property would otherwise have been by law rateable. One half is the limit fixed by the statute, beyond which the reduction cannot extend. Subject to that limit, it is in the discretion of the overseers to rate the tenements at any amount under three-fourths of their rateable value."—*Eastern Counties' Herald.*

Westminster-bridge.—There was printed on Saturday, in a Parliamentary document, a copy of a letter from Mr. Walker, the engineer to the Commissioners of Westminster-bridge, on the present condition of the bridge. The letter is dated the 10th of November last, and describes a site for the new bridge. The cost of a temporary bridge would be 12,000*l*. Mr. Walker says, "As respects security to the public, I consider that a new temporary bridge of timber would be more secure than the present bridge, of which three of the arches are supported upon piles which have already stood for five years, and are not to be depended upon for resisting heavy pressure by ice or blows by vessels. Attention to, and a frequent examination of, the state of the piles and centering of the bridge is now considered to be expedient. Messrs. Cubitt and Co. offer to build a temporary bridge in one year." It is proposed that the new bridge be of granite, and, when completed, with the new Houses of Parliament, would have a good approach.

Improved Chain.—Mr. Sisson, of Slough, has recently enrolled a patent for links of chains, and also anchors, pulleys, and other articles where great strength is required, of a series of layers or laminæ of iron, or iron and steel soldered together. For the purpose of forming the links of chains, the patentee employs a ribbon or strip of iron, or two strips, one of iron and one of steel, which he winds round a mould of the exact form of link required, and to any desired thickness, and then secures by binding them with wire, or by soldering so as to prevent the ends from slipping. The apparatus which he employs for the purpose of forming the links is so constructed as to admit of the link in process of formation being passed through that constituting the end of the chain, so as to form, when completed, a perfect part of the chain, and, by adding link to link in this manner, any required length may be produced. The links may also be rivetted instead of being soldered or bound round with wire. The patentee also constructs chains by making the links of a series of flat pieces suitably shaped, which he connects together according to any required thickness or strength of chain by rivets or by soldering. Links of layers well rivetted, combined with the flattened form of Price's chain, ought to make a cable of great strength, compared with any other, weight for weight of metal.

Harwich Pier.—The driving of the first pile of a new pier at Harwich took place on 2nd inst. The pier will be 336 feet in length by 22 in width, on a platform level, with an arm extending eastward 220 feet. It will be constructed of timber, at an estimated expense of 12,700*l*., and, according to the contract, will be completed and ready for opening on 31st August. The site is at the north-west part of the town, called Angel Quay. The work is projected under the Harwich Improvement Act. Mr. P. Bruff is the engineer; Mr. E. Smith the contractor; Mr. Scott the superintending engineer. The Dutch Government has granted a concession for the laying down of the electric telegraph from the Hague to Harwich, and the railway is on the point of being completed from London to Harwich, which will thus become an important medium of traffic between the northern nations of Europe and the metropolis. Three thousand poor people were feasted on the occasion of driving the first pile of the new pier. A political bias and colouring, it is said, has unwisely been given to the proceedings.

Metropolitan Sanitary Association.—The second anniversary dinner was held on the 4th at the London Tavern, the Earl of Harrowby in the chair. The Chairman, in giving the toast of the evening, "The Metropolitan Sanitary Association," said, they had been in the habit for some years past of talking so much about sanitary reform, that the public had heard so much in reference to the matter, that they began to think every thing had been done; but they had met that day to say that little after all had been done in the way of sanitary reform, more especially in this great metropolis. Lord Shaftesbury spoke. Mr. Brassey proposed, "The Sanitary Reformers of the House of Commons," to which Viscount Ebrington responded. Mr. Edwin Chadwick proposed, "The Literary Supporters of Sanitary Reform," to which Mr. F. O. Ward replied. The honorary secretaries of this institution deserve great credit for the perseverance and determination with which, in the face at one time of financial difficulties, they have prosecuted its objects, and maintained its efficiency.

Leaf Iron and Iron Books.—At the Renard Works in Prussia, sheet-iron so thin is manufactured, that it can be used for paper. A bookbinder of Breslau has made an album of it, the pages of which turn as flexibly as the finest fabric of linen rags. It is suggested that perhaps books may hereafter be printed for the tropics on these metallic leaves, and defy the destructive power of ants of any strength of forceps. Invent a white ink, and the thing is done. Of the finest sort the machinery rolls 7,040 square feet of leaf iron from 1 cwt. of metal.

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